

IN THE CLAIMS:

Please amend claims 1 and 3, and add new claims 5-11, as indicated in the complete list of claims that is presented below.

1. (currently amended) A method of measuring defocusing, comprising the steps of:

applying a resist to the top surface of a semiconductor wafer;

subjecting the resist to exposure to light, wherein the exposure is carried out by deviating a focus of the light by a given distance away from the resist, in a direction perpendicular to the top surface of the semiconductor wafer, and by using a mask patterned ~~in~~ with a geometrical figure comprising a plurality of small rectangles, each narrower in width than a resolution limit of a pattern exposure system, provided on four sides of a large rectangle, and arranged so as to be perpendicular longitudinally or parallel transversely to the respective ~~four~~sides of the large rectangle;

forming a resist pattern by developing the resist after the step of subjecting the resist to the exposure to light; and

finding defocusing in relation to the resist on the basis of a length of the resist pattern.

2. (original) A method of measuring defocusing according to claim 1, wherein the exposure is carried out by focusing in a region where a ratio of change in the shape of the resist pattern, to change in the position of the focus, is linear.

3. (currently amended) A method of obtaining correct focusing, comprising the steps of:

applying a resist to the top surface of a semiconductor wafer, having a plurality of shots;

measuring a focus position in relation to the resist;

subjecting the respective shots of the resist to exposure to light by deviating a focus by a given distance away from the focus position, in a direction perpendicular to the top surface of the semiconductor wafer, wherein the exposure is carried out by deviating the focus by a given distance away from the resist, in the direction perpendicular to the top surface of the semiconductor wafer, and by using a mask patterned ~~in~~ with a geometrical figure comprising a plurality of small rectangles, each narrower in width than a resolution limit of a pattern exposure system, provided on four sides of a large rectangle, and arranged so as to be perpendicular longitudinally or parallel transversely to the respective ~~four~~sides of the large rectangle;

forming a resist pattern for the respective shots by developing the resist after the step of subjecting the respective shots of the resist to the exposure to light;

finding defocusing in relation to the focus position in the respective shots on the basis of a size of the resist pattern for the respective shots; and

executing focusing in relation to the resist on the basis of the focus position and the defocusing.

4. (original) A method of obtaining correct focusing, wherein the exposure is carried out by focusing in respective regions where a ratio of change in the shape of the resist pattern, to change in the position of the focus, is linear.

5. (new) A method of measuring defocusing according to claim 1, wherein the step of subjecting the resist to exposure to light comprises using the pattern exposure system to focus the geometrical figure on an image plane that is approximately parallel to the top surface of the semiconductor wafer.

6. (new) A method of measuring defocusing according to claim 3, wherein the step of subjecting the respective shots of the resist to exposure to light comprises using the pattern exposure system to focus the geometrical figure on an image plane that is approximately parallel to the top surface of the semiconductor wafer.

7. (new) A method of measuring defocusing, comprising the steps of:
applying a resist to the top surface of a semiconductor wafer;
placing a mask patterned with a predetermined figure in a pattern exposure system having a resolution limit, the predetermined figure including a plurality of elongated light-transmitting regions each having a width that is narrower than the resolution limit of the pattern exposure system, the pattern exposure system including focusing means for projecting an image of the predetermined pattern in an image plane, the focusing means having an optical axis;

positioning the wafer with respect to the pattern exposure system so that the optical axis of the focusing means is substantially perpendicular to the semiconductor wafer and the image plane is located below the resist;

exposing the resist with light projected by the pattern exposure system;

developing the resist to form a resist pattern on the semiconductor wafer;

measuring the resist pattern; and

finding defocusing using the measurement of the resist pattern.

8. (new) A method of measuring defocusing according to claim 7, wherein the elongated light-transmitting regions include narrow stripes that are disposed parallel to one another.

9. (new) A method of measuring defocusing according to claim 7, wherein the predetermined pattern includes a rectangle and the elongated light transmitting regions include a first set of narrow stripes that are disposed parallel to one another and perpendicular to a first side of the rectangle, and a second set of narrow stripes that are disposed parallel to one another and perpendicular to a second side of the rectangle.

10. (new) A method of measuring defocusing according to claim 9, wherein the first and second sides are opposite sides of the rectangle.

11. (new) A method of measuring defocusing according to claim 10, wherein the elongated light transmitting regions additionally include a third set of narrow stripes that

are disposed parallel to one another and perpendicular to a third side of the rectangle, and a fourth set of narrow stripes that are disposed parallel to one another and perpendicular to a fourth side of the rectangle.